

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

Claims 1-13 (Cancelled).

14. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising:  
an encoder that has a table storing a plurality of mutually uncorrelated symbol patterns,  
which are different from spreading codes, and that encodes a plurality of types of control information for a single communication terminal for use in uplink packet transmission, using the symbol patterns that differ between the types of control information; and  
a spreader that spreads the plurality of types of control information after the encoding, using a single spreading code common between the plurality of types of control information, wherein:

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

15. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising:  
a first transmission signal former that spreads transmission data for a first communication terminal, using a first spreading code assigned to said first communication terminal, and forms a

first dedicated channel signal for said first communication terminal, and that spreads transmission data for a second communication terminal, using a second spreading code assigned to said second communication terminal, and forms a second dedicated channel signal for said second communication terminal; and

a second transmission signal former that multiplexes a plurality of types of first control information for the first communication terminal and a plurality of types of second control information for the second communication terminal, using a third spreading code, which is provided for common use by the first and second communication terminals, and a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes and that differ between the plurality of types of first control information and between the plurality of types of second control information, and that forms transmission signals for the first and second communication terminals, wherein:

the second transmission signal former comprises an encoder that has a pattern table storing the plurality of mutually uncorrelated symbol patterns and that encodes the plurality of types of first control information and the plurality of types of second control information, using the symbol patterns that differ between the types of control information, and

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

16. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising a multiplexer that multiplexes a plurality of types of control information for a plurality of communication terminals

for use in uplink packet transmission, using a spreading code and symbol patterns, which are different from spreading codes, in a plurality of combinations, said plurality of types of control information being provided per communication terminal, wherein

the multiplexer comprises:

an encoder that has a pattern table storing a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, and that encodes a plurality of types of control information for a single communication terminal for use in uplink packet transmission, using the symbol patterns that differ between the types of control information; and

a spreader that spreads the plurality of types of control information after the encoding, using a single common spreading code, wherein:

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

17. (Currently Amended) A radio network controller apparatus comprising:

an a spread code and symbol pattern assigner that assigns configured to assign a spreading code and symbol patterns, which are different from spreading codes, in a plurality of combinations, to a plurality of types of control information for a plurality of communication terminals for use in uplink packet transmission, said plurality of types of control information being provided per communication terminal[[],]; and

a sender that sends the assigned spreading code and symbol patterns to a radio base station apparatus, wherein:

the assigner assigns a single spreading code and the symbol patterns that differ between the types of control information, to the plurality of types of control information for a single communication terminal, and

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

18. (Previously Presented) The radio base station apparatus of claim 15, further comprising:

a first transmit power controller that controls transmit power of dedicated channel signals on a per dedicated channel basis; and

a second transmit power controller that controls a transmit power of the plurality of types of first control information and a transmit power of the plurality of types of second control information, according to a transmit power of a dedicated channel for the first communication terminal and a transmit power of a dedicated channel for the second communication terminal, respectively.

19. (Previously Presented) The radio base station apparatus of claim 14, wherein the plurality of types of control information comprises at least one of a packet transmission rate, a coding rate, a spreading factor, the number of spreading codes, a modulation scheme, a packet data size, a transmit power, and information about retransmission.

20. (Currently Amended) A communication terminal apparatus comprising:

a despreader that despreads a signal from a radio base station apparatus, using a single spreading code provided for a single communication terminal apparatus;

a decoder that extracts a plurality of types of control information, using symbol patterns, which are different from spreading codes, provided from the radio base station apparatus, said plurality of types of control information for the communication terminal apparatus being multiplexed in the signal using the plurality of symbol patterns; and

a transmission signal former that forms uplink transmission packets, based on the plurality of types of control information extracted by the decoder, wherein:

the decoder selects the symbol patterns provided from the radio base station apparatus, from a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, and decodes the signal after the despreading, using the selected symbol patterns, and

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

21. (Previously Presented) The communication terminal apparatus of claim 20, wherein the plurality of types of control information comprises at least one of a packet transmission rate, a coding rate, a spreading factor, the number of spreading codes, a modulation scheme, a packet data size, a transmit power, and information about retransmission.

22. (Currently Amended) A transmission signal generation method comprising:

selecting, from a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, the symbol patterns that differ between types of control information, from

a plurality of mutually uncorrelated symbol patterns;

encoding a plurality of types of control information for a single communication terminal, using the selected symbol patterns; and

spreading the plurality of types of control information after the encoding, using a single common spreading code, wherein:

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

23. (Currently Amended) A method of receiving a plurality of types of control information for a communication terminal, the method comprising:

despreadng a received signal, using a single spreading code common to the plurality of types of control information;

selecting, from a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, the symbol patterns provided from a radio base station apparatus, from a plurality of mutually uncorrelated symbol patterns; and

decoding the signal after the despreading, using the selected symbol patterns, wherein:

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

24. (Currently Amended) A radio communication system that transmits a plurality of types of control information for a single communication terminal for use in uplink packet transmission, the radio communication system comprising:

a radio network controller apparatus;

a radio base station apparatus; and

a mobile station apparatus, wherein:

the radio network controller apparatus designates a plurality of symbol patterns, which are different from spreading codes and that which differ between the plurality of types of control information, and a spreading code common to the plurality of types of control information, for the radio base station apparatus and the mobile station apparatus;

the radio base station apparatus transmits the plurality of types of control information to the mobile station apparatus, using the plurality of symbol patterns and the spreading code;

the mobile station apparatus extracts the plurality of types of control information, using the plurality of symbol patterns and the spreading code;

the radio network controller apparatus commands the radio base station apparatus and the mobile station apparatus to use, from a plurality of mutually uncorrelated symbol patterns, which are different from spreading codes, the different symbol patterns that differ between the types of control information, ~~from a plurality of mutually uncorrelated symbol patterns~~, and

the symbol patterns relate to symbols prior to spreading and are patterns in which one symbol is a minimum unit.

Claims 25-30 (Cancelled).

31. (New) The radio base station apparatus of claim 14, wherein one or the plurality of symbol patterns are assigned to the single communication terminal and polarities of the

symbol patterns are changed according to the contents of control information to be transmitted.